

REMARKS/ARGUMENTS

Claims 1-20 remain pending in the subject application. Independent claims 1, 9, 14 and 19 have been amended, as recited hereinabove.

Claims 1 – 7 and 9-20 have been rejected, under 35 U.S.C. 103(a) as allegedly being anticipated (it appears that this should be stated as “obvious” rather than “anticipated”) by Grieff et al. (US Patent 6,961,813) (hereinafter “Grieff”) in view of Utsunomiya et al. (US Publication No. US 2003/0131166 A1) (hereinafter referred to as “Utsunomiya”). It is believed that independent claims 1, 9, 14 and 19 and all claims depending therefrom are patentable over Grieff in view of Talati for, inter alia, the following reasons.

The combination of references cited to support the foregoing rejections does not render the claimed invention, as recited hereinabove, obvious because among other reason, to combine the foregoing references as the basis for rejecting the claimed invention under obviousness would actually teach away from the latter.

More specifically, to place the task file queue of Utsunomiya such that there is one for each host of Grieff, would require the task file queues to be placed in the decoder 120 of Grieff. To do otherwise, for example to have the task file queues of Utsunomiya placed before the switch of Grieff would be re-designing Grieff and is certainly not the teaching of Grieff. Grieff does not even suggest or hint at such a design.

To place the task file queue of Utsunomiya after the switch of Grieff teaches away from the claimed invention because in the claimed invention, the task files are located in the host ports and receive FIS from their respective host units. Having the task file queues after the switch in Grieff does not alleviate the problem of preventing a host from sending commands to the dual port adapter until the occurrence of an assignment by the arbiter module 112, of the highest priority to the host that is prevented from sending commands until after completion of execution of the command in progress. [See Grieff: Col. 5, lns. 49-64 and col. 7, lns. 2-6]

On the other hand, having the task files appear in front of the switch in a manner as to accept commands from any of a plurality of host unit results regardless of the host winning arbitration. In this manner, the hosts are not required to win arbitration prior to sending a command to the switch, as required in a combination of Grieff and Utsunomiya.

While in the office action, it is stated that in Utsunomiya, “the task file enables a host to issue a plurality of commands to a peripheral at the same time”, it is not exactly clear how one would actually do so to achieve extending this concept to multiple host units, as appears to be the position taken in the final office action. In other words, this is not clearly set out in any of the office actions. To the extent the Applicant understands the reason forming the basis of this rejection, i.e. placing the task file queue of Utsunomiya in the decoder of Grieff, such a combination simply does not work in a manner consistent with the claimed invention for the foregoing, among other, reasons.

If the task file queue of Utsunomiya is being suggested in the final office action to be placed in the host ports of Grieff, this is not hinted at, taught by or suggested by Grieff. Furthermore, the task file queue of Utsunomiya operates in the application layer while the host ports of Grieff operate in the link layer.

At the bottom of page 8 and continuing to page 9 of the final office action, it is stated that “It would have been obvious to one of ordinary skill in the art, at the time of invention was made to include Utsunomiya's task file queue into Grieff's ATA ports ...” The foregoing “ATA ports” are presumed to be host ports 130 and 132 in Grieff, in which case, this is not Grieff's teaching, as the host ports 130 and 132 include link layer state machines for relaying primitives with no mention of any storage capability. [See Grieff: Col. 5, lines 50-56]. In fact, if the capability existed in Grieff's host ports 130 and 132 to store commands or non-data FIS, arguably Grieff would not have needed to store and decode host commands after the switch, i.e. FIS buffer 120.

Stated differently, in Grieff, the host ports are Link layer (layer 2) ports such that the task file can not be located in the host ports, and there is no suggestion in Grieff to change the host ports to be a Command Layer (Application layer, layer 4) port, as in Utsunomiya including task files or task file queue. Even if this could be done, just changing the host ports to layer 4 in Grieff, would not work with the switch/arbitration logic of Grieff. The switch/arbitration logic of Grieff must be redesigned.

Therefore, to incorporate Utsunomiya's task file queue into each of the host ports of Grieff would be to re-design Grieff using hindsight. Besides, what is one to do with Grieff's FIS buffers after its switch 110?

To reiterate, buffers after the switch in Grieff are used for storing commands. As stated in Grieff "... FIS buffers (120, 122) for storing and decoding incoming FIS's from the hosts and device, respectively and two outbound FIS buffers (124, 126) for generating the necessary control on the links to overcome limitations with ATA command queuing in a multi-initiator environment. Outbound FIS buffers 124, 126 include FIS's that are sent to the device and host, respectively, to overcome limitations associated with ATA command queuing in a multi-initiator environment." [See Grieff: Col. 5, lines 27-35.] There is no suggestion or teaching by Grieff of having a task file or task file queue in each of its host ports 130 and 132 or before its switch 112.

To summarize, locating the task file queue of Utsunomiya in Grieff's decoder will not alleviate the lack of concurrency problem of Grieff, to locate the task file queue of Utsunomiya before Grieff's switch 110 is not the teaching of Grieff and certainly not of Utsunomiya. Besides, the task file queue of Utsunomiya is in the application layer of the ATA protocol while that of Grieff is in the link layer of the SATA protocol. To take the language of Utsunomiya, as recited in the office action and hereinabove, regarding a host issuing a plurality of commands, in combination, with Grieff is not clear other than the two scenarios presented above and certainly, Utsunomiya does not include a switch as one is not needed when a single host is used.

An analysis supporting the foregoing non-obviousness is now presented using the TSM test. Even if the state of the industry would have lead inevitably to combine a single host PATA system with the multi-host SATA system and even if Grieff is considered to have provided the basis for these developments, Utsunomiya does not teach a solution to Grieff's concurrency problem by positioning the task file queue of Utsunomiya in the decoder of Grieff, which would maintain the concurrency problem of Grieff.

Additionally, there is no adequate support in Grieff for changing its structure such as to position the task file queue of Utsunomiya as input to the switch of Grieff. See *In Re Grabiak*, 769 F.2d 729, 731-32 (Fed. Cir. 1985).

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Thus, it is believed that claims 1, 9, 14 and 19 are patentable over Grieff in view of Utsunomiya and therefore, all claims depending therefrom are necessarily patentable over Grieff in view of Utsunomiya. It is further believed that for the foregoing reasons, claim 8 is patentable over Grieff in view of Talati and further in view of Kreifels (US Patent No. 4,891,788).

Reconsideration and allowance of claims 1-20 is hereby respectfully requested. Applicants submit that the subject application is now in condition for allowance and an early notice thereof is respectfully requested. Should any further amendment be required prior to passing the application to issue, the Examiner is respectfully invited to contact the undersigned by telephone at the number set out below.

Respectfully submitted,
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I hereby certify that this correspondence with all attachments is being electronically filed with the Commissioner for Patents at the USPTO, located at, P.O. Box 1450, Alexandria VA 22313-1450 on October 5, 2007 by Maryam Imam.

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